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The Influence of Web Usability on Online Shopper's Repurchase Intention

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ABSTRACT

Website plays an important role as a "cyber store" through which online shoppers have their initial and on-going interactions with the Web retailers. Therefore, Web usability becomes an important determinant of productive online transaction in the B2C e-commerce. The concept of Web stickiness in B2C e-commerce along with Web usability has drawn much attention from the practitioners and researchers. We believe Web usability and Web stickiness affect online shopper's repurchase intention in B2C e-commerce. In this regards, from the investigation of the relationship between the website and website users, this study explores the effects of Web usability, Web stickiness, online shopper's repurchase intention and the strengths of the relationships between different variables.

INTRODUCTION

As Internet is becoming a powerful channel in e-commerce, the website plays an important role as a "cyber store" through which consumers have their initial and on-going interactions with the Web retailers. In business to consumer transactions environment, website has become a major information source and cyber store to purchase online.

Up to now, numerous studies have focused on the design principle of websites and the measurement of Web usability. Unlike the previous research, this study concentrates on the relationship among usability of the website and stickiness of potential online shopper toward Web retailers from the B2C e-commerce perspective, because it has been suggested that elements of human-computer interface design have a significant influence on customer attitudes and perceptions of trustworthiness of a supplier (Kim and Moon 1998; Cheskin Research 2000; Nielsen and Norman 2000; Egger 2000).

From the relationship marketing perspective, since it always costs more to attract new customers than to retain current customers, customer retention is more critical than customer attraction. Increasing customer retention could improve long-term profitability in the business (Reichheld and Sasser 1990; Reichheld and Teal 1996; Reichheld and Schefter 2000). The key to customer retention is customer satisfaction (Zhang and M. von Dran 2001-2002). Consequently, if a customer is satisfied with the use of a specific website, he/she will continuously use the website to purchase online. Reichheld and Schefter (2000) found that acquiring consumers on the Internet is more expensive than on conventional channels and that if consumers cannot stick to the business' website, the e-business model will collapse. Therefore understanding consumers' expectations and how they feel about the website they use is becoming very important concern in the B2C e-commerce (Zhang and M. von Dran 2001-2002). Nonetheless, it is little known about the effect of human-computer interaction on the sticky behavior of website users to purchase online.

The purpose of this research is to explore the relationship between Web usability and users' repurchase intention and to identify the effect of Web stickiness constructs in the relationship. Based on the research purpose, the following research questions are raised: To what extent does a useful website lead online shopper's repurchase intention from the website? To what extent does a useful website lead online shopper's Web stickiness? Can online shopper's Web stickiness finally lead to online shopper's repurchase intention?

THEORETICAL BACKGROUNDS AND LITERATURE REVIEW

Web Usability

The usability of website has received attention in the human computer interaction (HCI) literature. Prior to widespread use of the web, usability of information systems was equivalent to a set of design principle (Palmer 2002). According to Nielsen (1993), the key element is (1) consistency of the interface, (2) response time, (3) mapping and metaphors, (4) interaction styles, and (5) multimedia and audiovisual. As the Web became a robust channel in the e-commerce, usability research began to focus more specifically on extending the basic usability principles into the Web environment (Shneiderman 1998; Nielsen 2000; Palmer 2002). Nielsen (2000) extends the following principles for Web design: (1) navigation, (2) response time, (3) credibility, and (4) content.

Some previous research has shown the impact of website design on the customer's initial perception of the company (Roy et al. 2001). The website in the B2C e-commerce is a web retailer's face to the consumer. Potential customers look at web retailer's online presence before doing any business with it. Since the Web is a strong medium in the context of online transaction, Web retailers are pursuing the most effective and competitive web design to communicate with potential consumers, motivate them to access or purchase their products and services, and engender consumers' trust. The website is an entry facilitator or barrier in achieving these goals in a Web-based transaction environment (Zhang and M. von Dran 2001-2002).

Unlike the physical store, the switching costs on the Internet are low. If consumers don't find what they want, cannot figure out how to purchase, or do not feel safe giving their personal information, they will leave the site by only a mouse-click. The initial visit to the website can be triggered by the advertising or other promotional methods. But If the website doesn't have usability, the percentage of those who complete a purchase after visiting the site will not be increased (Nielsen and Norman 2000).

Web Stickiness

The concept of stickiness in the Web world is currently defined multiple ways. Media Metrix, the leading digital media measurement company, measures stickiness solely on the average time spent at a site per usage month. Nemzow (1999) divided stickiness into short-term stickiness and long-term stickiness. Short-term stickiness is easily replicated by competitors. Long-term stickiness needs to grow even stickier over time, creating a financial hurdle that discourages customers from switching to competitors. Davenport (2000) points out that stickiness is critical on the e-commerce and that its main concern is how much actual viewer attention they attract over time. From the perspective of information technology, stickiness is the "first indication that companies are focusing not just on information distribution but on usage as well" (Davenport 2000, p.58). Dahui and Yadav (2001) suggested that user satisfaction, lack of motivation to switch, and perceived switching cost may lead stickiness toward a website.

In marketing research, stickiness might contribute to the evolution from customer acquisition to customer retention. Relationship marketing theories propose that the development of customer relationship follows a continuum from transactional to relationship orientations (Dwyer et al. 1987). Morgan and Hunt (1994) suggested that consumer stickiness might be one of the behavioral facets of the consumer's loyalty and commitment toward the long-term relationship with a business. We considered the definition of stickiness in terms of customer loyalty (Oliver 1999) as a deeply held commitment to reuse a preferred website consistently in the future, thereby causing repetitive same-web site visiting and using, despite situational influences and marketing efforts having the potential to cause switching behavior.

Online Shopper's Repurchase Intention

Social Exchange Theory (Thibaut and Kelley 1959; Homans 1961; Blau 1964) states that people are likely to apply social exchange rules developed and reinforced in past interactions with other individuals. This principle can be reasonably applied to the context of continuous IS use. In this study, website can be an example of an IS (Isakowitz et al. 1998). Initially, the user has certain needs and goals in browsing the Internet. After he finds a website that is useful and can satisfy his needs, the user may feel dependent on the website and keep returning to this website. If during the ongoing interactions the website can fulfill the user's need constantly, the user may have intention to repurchase a product or service at a specific website. Thus, the user may feel more dependent on the website and interact more with the website.

In a recent study, Bhattacherjee (2001) has developed a continuous IS use model based on expectation-confirmation model and investigated the significant effect of satisfaction on an individual's intention to use an IS continuously. The outcome of the research model is online shopper's repurchase intention at a web site, which is jointly determined by perceived usefulness and satisfaction with the browsing of website. His empirical study found that satisfaction and perceived usefulness are salient predictors of continuous IS use intention. Baroudi et al. (1986) also found that user satisfaction is a strong predictor of system use.

RESEARCH MODEL AND PROPOSED HYPOTHESES

Based on the relevant literature, we propose the research model for web usability and IT continuous use. The proposed model consists of 6 constructs: four dimensions of web usability, and one for web stickiness and IT continuous use, respectively. The constructs and their relationships are presented in Figure 1.

The theoretical hypotheses to be tested, grounding on each of the relations, are as follows:

H1: Each Web usability dimension will increase online shoppers' Web stickiness.
H1a: Ease of navigation will increase online shoppers' Web stickiness.
H1b: Consistency will increase online shoppers' Web stickiness.
H1c: Easy to learn will increase online shoppers' Web stickiness.
H1d: User guidance will increase online shoppers' Web stickiness.

H2: Online shoppers' web stickiness will have a positive impact on online shoppers' repurchase.

RESEARCH METHODOLOGY

An experiment will be conducted to evaluate the proposed research model. The constructs in the research model will be measured respondents self-reported perceptions after experiencing different websites. Participants' perception can be gathered utilizing questionnaires. The unit of analysis in this study is the perception of an individual user about using a website in B2C e-commerce. Students from several undergraduate business classes can be asked to participate voluntarily in this study. The use of student subjects is a pragmatic choice for controlled experimental research (Miranda and Bostrom, 1993-1994). For adequate statistical power, data from many subjects will be collected. However it needs to be very careful when interpreting the results of the experiment because of the mental constructs involved (Kumar and Benbasat 2001).

Figure 1. Proposed Research Model

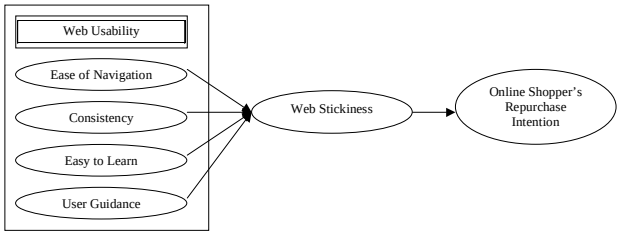

Table 1. Constructs and Operationalization

Construct	Operational Definition	Reference
Web Usability	Ability of a website to assist users perform tasks.	Adapted from Lin et al. (1997) index of usability.
Web Stickiness	Users' perception to satisfy the use of website and want to visit at the website again.	New scale will be developed.
IT Continuous Use	Users' continuous purchase behavior from the specific website.	Extended from Mathieson's (1991) behavioral Intention Scale.

Measurement

A questionnaire was used to collect data on user evaluation on the constructs proposed in the research model. The first part of the questionnaire will be designed to collect general demographic information and previous Internet use experience of subjects. The second part will contain questions based on five-point Likert scale, comprising questions adapted from the previous studies and newly developed for this study. For evaluating website usability, index of usability developed and validated by Lin et al. (1997) can be used. The dimensions of web usability proposed by Neilsen were latter integrated into a general index of usability by Lin et al. (1997). Table 1 provides operational definitions and sources for the constructs.

Data Analysis and Hypothesis Testing

Structural equation modeling is considered a powerful second generation multivariate analysis technique for studying causal model. It also superior to tradition regression and factor analysis because of the measurement model is assessed within the context of the theoretical structural model (Fornell 1982). Partial least squares (PLS) and LISREL are the most widely known implementation of structural equation modeling. PLS, developed by Wold (1982), was the preferred technique for data analysis in this study because PLS is considered more appropriate for the relatively small sample size (Thong et al. 1996).

EXPECTED OUTCOME AND LIMITATION

Web usability becomes an important determinant of productive online transaction in the B2C e-commerce. In this regards, from the investigation of the relationship between the website and website users, this study explores the effects of Web usability, Web stickiness, online shopper's repurchase intention and the strengths of the relationships between different variables. We expect this study will provide both theoretically and practically useful implications. This study includes a very important mediating variable such as Web stickiness in the relationship between web usability and online shopper's repurchase intention. Therefore, the study will provide the conceptual development in the website-user relationship and the additional applicability of social exchange theory and expectation-confirmation model in the B2C e-commerce. For the practice of human-computer interaction, this study expects to suggest that new features of website such as customization and personalization have the potential to change the roles of IS from merely tools to social actors and relationship partners. The findings of this study will also help companies analyze the efficacy of new interface technologies in impacting their target customers' perceptions.

However, this study has a number of limitations. First, it is difficult to control the possibility that Web stickiness and online shoppers' continuous use can be both influenced by a third components, undefined by the measurement items. Second, because this study will be conducted in a laboratory setting, the results make it becomes less applicable to the real world situations.

REFERENCES

References are available upon request from authors.